REMARKS

The allowance of claims 4 and 5 is noted with appreciation. Claims 14 and 15, indicated to be allowable, have been rewritten in independent form, so are now also believed to be in an allowable form.

Claim Rejections Under 35 U.S.C. §102

Claims 1-3, 6-13 and 16 stand rejected under 35 U.S.C. §102(e) as being anticipated by United States patent application publication no. 2004/0051798 (hereinafter referred to as "Kakarala"). Each of the rejected independent claims 1, 2, 7, 10, 11 and 16 has been amended to include determining the signs of differences between the outputs of a given photo-sensor element (pixel) and those of its neighbors, and to then examine these signs. Each of these claims then further specifies that a judgment about the given element output is made depending upon whether these signs are the same or not.

It is respectfully submitted that the cited Kakarala reference does not suggest this process. As the Office Action correctly points out, its paragraphs 0047 – 0052 describe making calculations of differences between the value of a pixel of interest and values of neighboring pixels, although other difference values are also determined. These calculations include the following, where the locations of the pixels relative to the pixel of interest Z are shown in Figure 4:

$$dColor(2) = Z - X33,$$
$$dColor(3) = X37 - Z, \text{ and}$$
$$dVert = Z - X15.$$

These difference quantities are then used by Kakarala to determine whether the pixel of interest has a maximum or minimum value among it and its neighboring pixels (steps 514 and 516 of Figure 5A). This is described in paragraphs 0054 – 0056. If neither a maximum or minimum, it is determined that the pixel of interest is not defective (Figure 5A, step 518).

Kakarala makes this determination by looking at whether the values of dColor(2), dColor(3) and dVert are greater than or less than zero, in the manner specifically set forth in the last lines of each of paragraphs 0054 and 0055. The pixel of interest is determined to have a maximum value if dColor(2) and dVert are greater than zero and dColor(3) is less than zero.

(Kakarala, last line of paragraph 0054.) Similarly, a minimum value is detected when dColor(2) and dVert are less than zero and dColor(3) is greater than zero. (Kakarala, last line of paragraph 0055.) If either a minimum or maximum value, it cannot be said (Figure 5A, steps 514 and 516) that the pixel of interest is not defective. That is, if the three specified pixel value differences have one of the particular combinations of positive and negative signs recited in the last lines of paragraphs 0054 and 0055, it cannot be said that the pixel is not defective, and the further processing of either of Figures 5B or 5C takes place.

This is a more complicated process than what is claimed in the present application. In the present application claims, the signs of the differences are examined simply for whether they are different, in which case the given photo-sensor element is determined to be good. Similarly, if the signs of the differences are the same, the given element is determined to be potentially defective. Specifically identified differences need not have a particular combination of positive and negative signs, as is the case in Kakarala (last lines of each of paragraphs 0054 and 0055), to make these determinations. The claimed process simply examines the signs of the original differences between element values and then treats the given element one way if all the signs are the same, and an opposite way if the differences do not have the same signs. This is much simpler than Kakarala, which utilizes a more computational intensive process.

For these reasons, it is respectfully submitted that each of the independent claims 1, 2, 7, 10, 11 and 16, and thus also their dependent claims, are novel and patentable over the cited Kakarala reference.

Conclusion

Accordingly, it is believed that this application is now in condition for allowance and an early indication of its allowance is solicited. However, if the Examiner has any further matters

that need to be resolved, a telephone call to the undersigned attorney at 415-276-6534 would be appreciated.

FILED VIA EFS

Respectfully submitted,

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